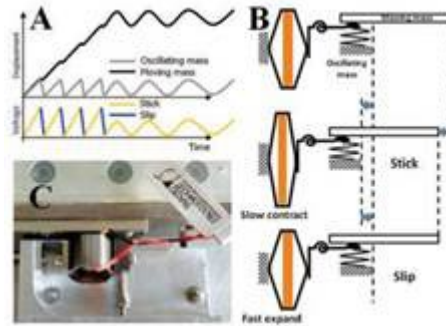


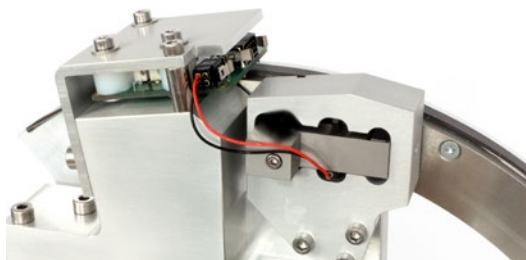
PARAMETER	UNIT	MSPA30UXS	MSPA35XS	MSPA40SM
		Preliminary	Preliminary	Preliminary
> Stepping mode				
Travel range ⁽¹⁾	mm	∞	∞	∞
Nominal Speed ^{(2) (3)}	mm/s	30	10	7
Max speed ⁽⁴⁾	mm/s	50	20	10
Typical step size ^{(2) (3)}	μm	5 ... 20	5 ... 20	5 ... 26
> Fine positioning mode				
Stroke ^{(2) (4)}	μm	36.0	54.0	45.0
Resolution ⁽⁴⁾	nm	< 1	< 1	< 1
Stiffness	N/μm	0.09	0.50	3.80
> Forces				
Holding force without consumption	N	0.8	3	10
Nominal driving force ^{(2) (3)}	N	0.2	0.5	1.75
Max driving force ⁽⁴⁾	N	0.3	1	2.5
> Driver				
Nominal driver		SPC45	SPC45	LA75B+UC45
> Mechanical properties				
Lifetime ⁽⁵⁾	m	> 2000	> 2000	> 2000
Height of module	mm	10.00	15.00	20.00
Width of module	mm	10.00	15.00	20.00
Length (in actuation direction)	mm	20.00	30.00	50.00
Mass	g	12.00	20.00	40.00
Max friction trip run-out	μm	±50	±100	±200

1. Limited by moving part
2. Unloaded
3. With nominal driver
4. Custom version and driver
5. Unloaded, nominal speed, 50% duty-cycle, ambient conditions

PRINCIPLE OF MSPA OPERATION



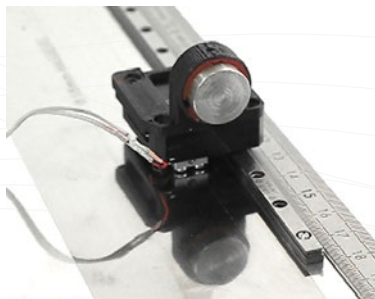
APPLICATIONS OF STANDARD AND CUSTOMISED MSPA-BASED SOLUTIONS



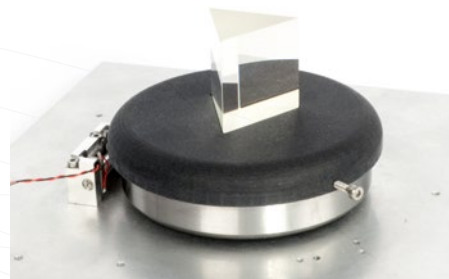
MSPA curved track demonstrator



3 axis closed loop mechanism



MSPA long stroke demonstrator



MSPA rotary demonstrator